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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,075	06/09/2000	Mark F. Schulz	1105.11011101	3015

32692 7590 02/19/2003

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EXAMINER	
GRENDZYNSKI, MICHAEL E	
ART UNIT	PAPER NUMBER
1774	13

DATE MAILED: 02/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/591,075	SCHULZ ET AL.	
	Examiner	Art Unit	
	Michael E. Grendzynski	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-23,25,26 and 28-49* is/are pending in the application.

4a) Of the above claim(s) *6,7,9,11-14,19-21,25,35 and 36 and 44-49* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-5,8,10,15-18,22,23,26,28-34 and 37-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I (claims 1-5 and 7-46), Species "a" (claims 1-5, 8, 10, 15-18, 22, 23, 26, 28-34 and 37-43) in Paper No. 12 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-5, 8, 10, 15-17, 22, 23, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ali (US 5712027) in view of the Luvicross Product Bulletin. Applicants claim inkjet receptive media comprising (1) a synthetic organic or inorganic substrate defining a plurality of pores and (2) a coating thereon including a plurality of organic particles comprising cross-linked homopolymers and copolymers of N-vinyllactams, and wherein the substrate may comprise spunbonded thermoplastic fibers. Ali discloses an ink receptive sheet comprising a substrate and an ink-receiving layer. *See* Abstract. The substrate comprises Teslin® (microporous filled polymer) or Tyvek® (spunbonded polyolefin) synthetic sheets. *See* col. 21, ll 49-51. The ink-receptive layer, moreover, comprises a binder and organic or inorganic particles. *See* col. 20, ll 16-25 (disclosing binders) and col. 20, ll 36-45. While not limiting the type of organic particles that may be used in the layer, Ali does not specifically disclose the use of organic particles comprising cross-linked homopolymers and copolymers of N-vinyllactams. The Luvicross® Product Bulletin teaches that its Luvicross VI or VI-M particles comprise copolymers of polyvinylpyrrolidone and vinylimidazole, and teach that they are used advantageously both as ink-fixing/solvent-fixing pigments and as components of coating formulations for ink jet papers and films.

See Product Bulletin, pp 26 and 29. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the Luvicross® VI or VI-M organic particles as the organic pigment in the ink-receptive coating of Ali, motivated by the desire of providing a component that would function to fix ink jet ink printed thereon, as taught by the Luvicross® Product Bulletin on p 29.

With specific regard to claim 2, 22 and 23, Ali discloses that its receptive layer may further comprise inorganic particles (e.g., alumina or silica sols). *See* col. 20, ll 51-53.

With regard to claims 3-5, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney,* 205 USPQ 215. To date, this burden has not been sustained.

With regard to claims 15-17, the Luvicross® Product Bulletin discloses that its particles possess a size within applicant's claimed size. *See* Bulletin at p 27.

With respect to claim 18, since Tyvek® is formed using the identical process as that claimed by applicants (spunbonding), it inherently possesses the claimed pore volume. In addition, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. Pore size of a substrate is a conventional concern in the art, for it controls the ink absorption/wicking properties of the layer, thus controlling image density and dot size. Consequently, it would be obvious to optimize. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney,* 205 USPQ 215. To date, this burden has not been sustained.

With respect to claims 28-31, since the Luvicross® particles are identical to the particles used by applicants, it is inherent the particles possess the claimed water absorbing capacity.

With respect to claims 32-34, thickness of an ink-receptive layer is a conventional concern in the art, for it controls not only the ink-receptive properties of the layer, but ensures that the entire medium will be sized appropriately to fit through a printer.

With regard to claims 37, Ali discloses that its ink-receptive layer comprises a binder (e.g., a liquid absorbent component). *See* col. 10, ll 52-54 and col. 20, ll 16-26)

With regard to claims 38-40, Ali discloses the presence of a binder within an amount claimed by applicants. *See* col. 20, ll 30-32.

With regard to claim 41, Ali discloses the binder may comprise a water-soluble polymer such as polyvinyl alcohol. *See* col. 20, l 18.

With regard to claim 42, Ali discloses that its binder may comprise an acrylic. *See* col. 30, l 4.

4. Claims 1, 2-5, 8, 10, 15-18, 22, 23, 26, 28-34 and 37-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quintens (US 2001/0024713) in view of the Luvicross Product Bulletin. Quintens discloses an ink jet recording sheet comprising a support and an ink-receiving layer. *See* Abstract. The ink-receiving layer comprises a binder (e.g., PVA, acrylic resins and ethylene vinyl acetate resins, *see* ¶ 40) and organic or inorganic particles (*see* ¶ 35). The substrate comprises Teslin® (microporous filled polymer) or Tyvek® (spunbonded polyolefin) synthetic sheets. *See* ¶ 63. While not limiting the type of organic particles that may be used in the layer, Quintens does not specifically disclose the use of organic particles comprising cross-linked homopolymers and copolymers of N-vinyllactams. The Luvicross® Product Bulletin teaches that its Luvicross VI or VI-M particles comprise copolymers of polyvinylpyrrolidone and vinylimidazole, and teach that they are used advantageously both as ink-fixing/solvent-fixing pigments and as components of coating formulations for ink jet papers and films. *See* Product Bulletin, pp 26 and 29. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the Luvicross® VI or VI-M organic particles as the organic pigment in the

ink-receptive layer of Quintens, motivated by the desire of providing a component that would function to fix ink jet ink printed thereon, as taught by the Luvicross® Product Bulletin on p 29.

With regard to claims 2-5, it is obvious to combine separately taught prior art ingredients that perform the same function (i.e., organic and inorganic pigments)--it is logical that they would produce the same effect and supplement each other. *In re Crockett*, 126 USPQ 186 (1960); *In re Kerkhoven*, 205 USPQ 1069 (1980).

With regard to claims 15-17, the Luvicross® Product Bulletin discloses that its particles possess a size within applicant's claimed size. *See* Bulletin at p 27.

With respect to claim 18, since Tyvek® is formed using the identical process as that claimed by applicants (spunbonding), it inherently possesses the claimed pore volume. In addition, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. Pore size of a substrate is a conventional concern in the art, for it controls the ink absorption/wicking properties of the layer, thus controlling image density and dot size. Consequently, it would be obvious to optimize. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney,* 205 USPQ 215. To date, this burden has not been sustained.

With regard to claims 22 and 23, Quintens discloses that its inorganic particles comprise alumina or silica. *See* ¶ 35.

With respect to claims 28-31, since the Luvicross® particles are identical to the particles used by applicants, it is inherent the particles possess the claimed water absorbing capacity.

With respect to claims 32-34, thickness of an ink-receptive layer is a conventional concern in the art, for it controls not only the ink-receptive properties of the layer (e.g., to avoid bleeding), but ensures that the entire medium will be sized appropriately to fit through a printer.

With regard to claims 38-40, Quintens discloses the presence of a binder within an amount claimed by applicants. *See* ¶ 41.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Tyvek Product Bulletin (already made of record) evidences that Tyvek comprises spunbonded polyolefin.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael E. Grendzynski whose telephone number is 703-305-0593. The examiner can normally be reached on weekdays, from 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 703-308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5408 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2351.

Michael E. Grendzynski
Assistant Examiner
February 8, 2003

BRUCE H. HESS
PRIMARY EXAMINER